

Notice of Allowability

Application No.

10/054,534

Examiner

Daniel M. Sullivan

Applicant(s)

MUKERJI ET AL.

Art Unit

1636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Papers filed 1 February 2005 and 28 March 2005.
2. ☒ The allowed claim(s) is/are 2,4,5,11-16,25-30 and 36.
3. ☒ The drawings filed on 22 January 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>6/8/05</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

58

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Cheryl Becker on 9 June 2005.

The application has been amended as follows:

In the claims:

Cancel claims 1, 6-10, 17-24 and 31-35.

Amend claims 11, 14-16 and 25 as follows:

Claim 11 (currently amended): A method of producing a desaturase in a host cell in vitro comprising the steps of:

- a) isolating a nucleotide sequence comprising SEQ ID NO:13;
- b) constructing a vector comprising: i) said isolated nucleotide sequence operably linked to ii) a regulatory sequence;
- c) introducing said vector into a host cell *in vitro* for a time and under conditions sufficient for expression of said desaturase.

Art Unit: 1636

Claim 14 (currently amended): An isolated mammalian cell comprising said vector of claim 12, wherein expression of said nucleotide sequence of said vector results in production of altered levels of arachidonic acid (AA), eicosapentaenoic acid (EPA), gamma-linolenic acid (GLA) or stearidonic acid (STA), when said cell is grown in a culture media comprising at least one fatty acid selected from the group consisting of linoleic acid (LA), alpha- linolenic acid (ALA), dihomo-gamma-linolenic acid (DGLA) and eicosapentaenoic acid (EPA).

Claim 15 (currently amended): An isolated plant cell[[,]] ~~plant~~ or plant tissue comprising said vector of claim 12, wherein expression of said nucleotide sequence of said vector results in production of a polyunsaturated fatty acid by said plant cell, plant or plant tissue.

Claim 16 (previously presented): The isolated plant cell[[,]] ~~plant~~ or plant tissue of claim 15 wherein said polyunsaturated fatty acid is selected from the group consisting of AA, EPA, GLA and STA.

Claim 25 (withdrawn): A method for producing a polyunsaturated fatty acid comprising the steps of:

- a) isolating a nucleotide sequence ~~selected from the group consisting of~~ comprising SEQ ID NO:13 ~~and SEQ ID NO:32~~;
- b) constructing a vector comprising said isolated nucleotide sequence;
- c) introducing said vector into a host cell in vitro for a time and under conditions sufficient for expression of $\Delta 6$ -desaturase enzyme; and

Art Unit: 1636

- d) exposing said expressed $\Delta 6$ -desaturase enzyme to a substrate polyunsaturated fatty acid in order to convert said substrate to a product polyunsaturated fatty acid.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel M Sullivan whose telephone number is 571-272-0779. The examiner can normally be reached on Monday through Friday 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Remy Yucel, Ph.D. can be reached on 571-272-0781. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel M. Sullivan, Ph.D.
Examiner
Art Unit 1636


DAVID GUZO
PRIMARY EXAMINER